

A SUBMISSION TO THE TO THE DEPARTMENT OF COMMUNICATIONS, ENERGY AND NATURAL
RESOURCES CONSULTATION ON THE NEXT GENERATION TASKFORCE REPORT *ENABLING A
CONNECTED SOCIETY*

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Introduction

The Next Generation Broadband Taskforce (the Taskforce) made 51 recommendations designed to increase the use and penetration of high speed broadband in Ireland in its May 2012 report, *Enabling a Connected Society*. The recommendations reflected the Taskforce's purpose of not only highlighting "the legislative, policy and regulatory levers that will facilitate greater investment in high speed broadband services across Ireland" but also identifying "where gaps in commercial service provision are likely to occur between now and 2020" (NGBT, 2012, p. 6).¹ The Taskforce was thus very much a nuts and bolts examination of when and how high speed broadband will and could be rolled out across the State in an efficient and effective way. This emphasis on the practicalities was reflected in the five working groups which dealt with issues such as targets for high speed broadband, demand stimulation, and infrastructural barrier removal. To a large extent the benefits of high speed broadband were accepted based on various studies (*ibid*, p. 10).² The emphasis on implementation of high speed broadband rollout reflects the Programme for Government's proposal to make investments to ensure that every home and business should have next generation broadband.³

To take the Taskforce's agenda forward, the Department of Communications, Energy and Natural Resources launched on 2 May 2012 a month long consultation exercise "on how to best facilitate the provision of high speed broadband" (DCENR, 2012). It is then anticipated that soon after the consultation process is completed that Ireland's new National Broadband Plan will be finalised and published in July 2012. Our submission to the consultation exercise concentrates on three areas: removal of regulatory barriers; measures to increase demand; and, the provision of high speed broadband to homes and businesses where private operators are unlikely to provide such a service.⁴ The first two areas are concerned with what the Minister for Communications, Energy and Natural Resources (the Minister) refers to as "how to facilitate the rollout, by commercial market operators" of high speed broadband, while the last area is concerned with "if the Government is to intervene to address possible market failure, what is the best way to do so?" (NGBT, 2012, p. 4).

A key issue to which we return several times in this discussion is *in what ways and to what extent the State should intervene in broadband markets*. Some possible interventions are essentially regulatory in character and can be analysed using the tools of regulatory impact analysis (e.g. Department of the Taoiseach, 2009). Others involve public spending. Honohan (1997, p.76) sets out a useful classification of economic rationales for public expenditure:

¹ The Digital Agenda for Europe has set certain targets to be achieved by 2020 for the EU: 30Mbps broadband available to all citizens and 50 per cent of households subscribing to 100Mbps. (NGBT, 2012, p. 31).

² These studies include, for example, Forfas (2011). However, as discussed below, recent reviews of the literature on high speed broadband cast considerable doubt on the need for State intervention to promote high speed broadband due to market failure.

³ The Programme for Government states: "NewERA will co-invest with the private sector and commercial semi State sector to provide next generation broadband to every home and business in the state. This will be achieved by delivering fibre to the home or kerb for 90% of homes and businesses ... with the remaining 10% provided by high speed mobile or satellite broadband." Department of the Taoiseach (2011). The Department of Finance (2012, p. 14) while also making the commitment of NewERA involvement, only mentions significant investment in next generation broadband without committing to the targets in the Programme for Government.

⁴ Other issues are discussed in the NGBT report, for example to do with methods for assigning spectrum, but we do not address them in this submission.

- Provision of *public goods*;
- *Corrective* subsidies that aim to correct the relative prices that firms face, ensuring that they take into account the full societal costs and benefits of services in cases where there is some externality associated with the service. “Characteristically these are largely passive grant schemes where the administration of the scheme is confined to ensuring that it is reaching the target group and delivering the intended change in relative prices – with perhaps an eye also to minimising deadweight” (*ibid*, p. 76);
- *Targeted* schemes intended to address problems of imperfect information in markets or to correct a specific externality: “...these involve a much more active administration, greater selectivity and considerable value added in the form of training or advice” (*ibid*, p. 76); and
- Subsidies primarily intended to be *redistributional*.

The vital first step in choosing the optimal mix of expenditure and/or regulatory measures is to ensure that the instruments chosen fit the problems identified. We will refer back to the framework above when discussing the appropriate role of the State in the context of the Taskforce recommendations.

Next generation or high speed broadband refers to broadband access services with higher data transmission speeds than those currently provided to most households and small businesses. At the present time through a combination of provision by individual firms and several State-funded interventions, the most recent of which is the National Broadband Scheme (NBS),⁵ basic broadband is available throughout Ireland. The Taskforce addressed the issue of how to facilitate increasing the speed at which broadband is provided. Whereas the basic broadband offers download speeds of 3-10 Mbps, high speed broadband refers to download speeds up to 100Mbps. To use an analogy from another technology it is like moving from subsonic to a supersonic passenger airliner (Kenny and Kenny, 2011, p. 4).

Removal of Regulatory and Other Infrastructure Barriers

The Taskforce argues that extending the availability of high speed broadband requires significant infrastructural works.⁶ In particular, new mobile and fixed wireless technologies will require over 2,000 new installations. Fibre to the home or cabinet and backhaul infrastructure will require road openings and extra civil works. The Taskforce identified certain barriers relating to the rollout of high speed broadband infrastructure: planning processes for masts and antennas; and the administrative processes associated with the installation of street infrastructure (such as cabinets) and the installation of underground road works relating to broadband infrastructure. These barriers include high variation in local authority charges (i.e. contributions) for masts and antennas, the fact permission for a mast or antenna lasts for only five years before a renewal is required, despite the fact that the typical life of a mast is much longer than five years, and that 61 per cent of the several hundred appeals to An Bord Pleanála against local authority decisions to refuse a mast were

⁵ The NBS, completed in 2010, provided broadband to “designated electoral divisions in rural Ireland where coverage was deemed to be insufficient” (Comptroller and Auditor General, 2011. p. 363). See also: <http://www.dcenr.gov.ie/Communications/Communications+Development/National+Broadband+Scheme>. Accessed 16 May 2012. Earlier schemes are summarised in Forfas (2011, Textbox, 1, p. 34). For a careful examination of one of these schemes, the metropolitan area networks, see Woods (2005).

⁶ This paragraph draws heavily on NGBT (2012, pp. 15-16, pp. 48-59).

successful. Such appeals are not only time consuming and resource intensive, but suggest an inconsistency in the approach of the local authorities and An Bord Pleanala. In view of these barriers, the Taskforce make a series of recommendations including fair and transparent planning charges and development contributions. Indeed, the existence of the Taskforce itself has led to some improvement in the processes for applying for a road opening.⁷

The identification of the regulatory and other barriers to infrastructure development and proposals to remove the barriers is sensible. Transaction costs should be reduced with greater transparency in local authority procedures, common application forms and methodology with respect to mast, antennas and road openings. Predictability and certainty will increase if there is greater congruence between the decisions of local authorities and the planning appeal body, An Bord Pleanala. Explicit or implicit local authority rules that lead to decisions that are routinely overturned by An Bord Pleanala should be reconsidered.⁸ A forum between high speed broadband providers and local authorities should facilitate the identification and resolution of infrastructure problems at an early stage. The sharing of high speed broadband infrastructure provided this can be achieved in a way that does not infringe competition law, is likely to lower costs for providers and any disamenity costs to the public.⁹ To the extent that the removal of infrastructure barriers lowers marginal costs of the provision of high speed broadband it will, other things equal, increase the penetration of commercially driven high speed broadband services and reduce the need for any further government intervention, an issue we return to below.

On the issue of local authority development charges for masts and antennas the Taskforce states that “industry representatives ... indicated that while they are prepared to make a fair contribution, the level of charges are acting as a disincentive to investment” (NGBT, 2012, p. 49). The corollary is a recommendation that a methodology be developed to determine what is fair and that this is done in transparent manner (*ibid*, p. 54). A similar approach is taken with respect to road works (*ibid*, pp. 56-58). Whether or not the local authority development charges act as disincentive or barrier to the rollout of high speed broadband is not the issue. Rather the issue is whether or not the charges are set correctly, since any positive charge acts as a disincentive. In this context it is not clear what the term fair means, since it is inherently a subjective concept open to many different interpretations. It is possible that charges will be set too high, for example if they are used by local authorities as a revenue raising tool, or too low, for example if there is national pressure to roll out high speed broadband quickly. In order to avoid unnecessary economic distortions we suggest that charges be set based on any administrative costs incurred by the local authorities plus the disamenity of the particular infrastructure project. To relate this to our earlier discussion on reasons for public expenditure (which can be read analogously for taxes), we think development charges for infrastructure should be used as a corrective measure rather than as a discretionary tax instrument for local authorities.

⁷ For a discussion see NGBT (2011, pp. 56-58).

⁸ For example, under the Kerry County Development Plan for 2009-2015 planning permission for masts within 1km of residential properties, schools, hospitals, or any structure where there is human occupancy for residential or daily work purposes contravenes the Plan. An Bord Pleanala often overturns decisions taken on this basis. See, for example, An Bord Pleanala (2011).

⁹ The same point concerning competition law is also relevant to the discussion of spectrum sharing and pooling, as noted by the NGBT (2012, pp. 64-65).

Disamenity refers to the costs generated by the infrastructure development that are not borne directly by those developing the infrastructure.¹⁰ In other words, these costs, or unpriced externalities, are borne by the wider society. In the case of a road opening it would be costs such as the increased traffic congestion and loss of business to commercial premises adjacent to the road openings; in the case of masts and antennas it would, for example, be the visual unattractiveness of masts in prominent places in the countryside (e.g. on top of a mountain) and/or close to homes. Since the cost of the disamenity is likely to vary by location – a road opening on a busy road will generate more congestion costs than a similar opening on a quiet minor road – then the local authority charges will also vary. However, that does not mean that the methodology by which charges are estimated cannot be agreed, so that when using infrastructure to develop high speed broadband, telecommunications firms will be in a position to determine with reasonable accuracy what the charge will be and what information the local authority will need in order to set the charge.

In addition to the measures discussed in the Taskforce report, we have previously suggested that the incentive properties of road opening charges could be improved by taking into account the time dimension of development, for example by switching from fixed up-front charges to lane rental charges (Gorecki *et al.*, 2011, p.14).

Stimulating Demand for Broadband Services

On the demand side the Taskforce notes two not altogether unrelated issues with respect to broadband.¹¹ First, not all households and businesses use broadband, despite its wide availability. Second, there is a danger a digital divide developing whereby the disadvantaged and marginalised in society do not have access to broadband and thus are not in a position to fully participate in society. In order to address these problems, the Taskforce makes a number of recommendations. These include development of an advertising campaign, jointly funded between Government and industry, aimed at target groups not currently broadband enabled, particularly the SME sector; that the Department of Communications, Energy and Natural Resources (DCNER) should together with stakeholders develop a new National Digital Strategy; that financial incentives for those not digitally engaged to purchase hardware (e.g. a subsidy for PCs/laptops or phased deduction from a claimants weekly welfare payments) and to get connectivity (e.g. Department of Social Welfare household benefits package be structured so households better able to shop around so encouraging competition in service provision); and increase in eWorking at home through, for example, the civil service acting as an exemplar by substantially increasing availability of eWorking.

While it is undoubtedly the case that many households and some businesses do not subscribe to broadband service it is not clear that large advertising campaigns and financial incentives are justified. What is the counterfactual? What is likely to happen based on unchanged policies? The evidence suggests that broadband penetration at the household level in Ireland has not only been increasing, but that the gap between Ireland and the EU-27 average has narrowed considerably. In 2010 and 2011 the difference was three percentage points (EU-27, 68 per cent, Ireland, 65 per cent);

¹⁰ This is discussed further in Gorecki *et al.* (2011, pp. 6-8).

¹¹ This paragraph draws heavily on NGBT (2012, p. 14-15, pp. 39-47).

in 2004, 12 percentage points (15 and 3 per cent, respectively).¹² The vast majority of Irish enterprises now use broadband too; the share has grown from 76 per cent in 2009 to 91 per cent in 2011 (CSO, 2011, p.1). Thus it is not clear that additional intervention is necessary given the increasing penetration of broadband over time. Furthermore the benefits of any intervention – in terms of increased penetration – would need to be measured relative to what is likely to happen based on unchanged policies. If, for example, household broadband penetration is likely to increase to (say) 70 per cent in 2016, then any policy intervention could only claim responsibility for the excess above 70 per cent.

There is also little published evidence on whether advertising campaigns are a cost effective way to increase broadband penetration in the relevant target groups, and still less on whether this leads to societal benefits in excess of the private benefits that accrue to customers and suppliers. More research should be carried out before the State could justify such expenditure. It is, of course, a matter for participants in the industry whether they wish to collaborate on a private campaign to encourage broadband adoption.

The Taskforce recommends specific measures to encourage adoption in groups with particularly low penetration rates such as those on low incomes. In order to increase broadband connectivity amongst the disadvantaged the Taskforce recommends financial incentives in order to increase access. More work would need to be done on the costs, benefits and the nature of the problem to be addressed before these recommendations are implemented. This would entail several steps.

First, what market failures are the proposed policies trying to correct? The measures used should be tailored to the problem that is identified. For example, if under-adoption were mainly due to lack of information, that would imply a different set of measures (targeted) than if it were mainly caused by credit constraints (corrective) or simple lack of income among the relevant groups (redistributive). Second, what is the extent of household broadband penetration for these groups and how is it expected to develop in the near future? Third, to what extent do members of disadvantaged households already access internet services through other channels: Internet cafes; libraries; other local WiFi hotspots; Local Employment Offices where individuals can conduct job search and make applications using telephone and fax, substitutes for the Internet; and, through friends and relations to, for example, book an airline flight. Fourth, how much are these measures likely to cost, are they compatible with existing strategies for vulnerable groups (e.g. the National Poverty Strategy) and will they earn high enough societal benefits to justify their cost. The suggestion of phased deductions to pay for PCs/laptops sounds administratively complex at a time when the Department of Social Protection is under considerable strain given the demand for its services and continued pressure on government expenditure. Furthermore, there is a danger that the PC/laptop supplied at a subsidised price might simply be resold rather than used by the targeted household to access the Internet.

To the extent that SMEs do not use broadband when it is available to, for example, order supplies or sell to consumers, it is still not clear that there is a need for demand stimulation as the Taskforce argues via an awareness campaign. Apart from the fact that the basic Internet access is ubiquitous, there are already bodies such as County and City Enterprise Boards and Enterprise Ireland that

¹² For details see ComReg (2012, Table 3.4.2., p. 41). These data are consistent with the household budget survey, which finds that the percentage of households with Internet access increased from 14.2 per cent in 1999-2000, to 42.2 per cent in 2004-2005 to 65.8 per cent in 2009-2010 (CSO, 2012, Table Q, p. 33).

provide advice on business strategy and practice. Before any awareness campaign is undertaken at a minimum the success of advice and information already dispensed by these and other bodies such as the Small Firms Association and the Irish Small and Medium Enterprises Association would need to be established. What extra needs to be added? What are the likely costs compared to the benefits?

The Taskforce also recommends as part of demand simulation that there should be an increase in eWorking with the public sector setting an example in this respect. Such a move would lead to an increase in demand for Internet services in the home, since some homes may decide to access the Internet so as to take advantage of eWorking. The Taskforce argue that the concept of eWorking “is rapidly becoming the norm in many segments of the economy with consequent savings for those who are willing to embrace it” (NGBT, 2012, p. 42). This raises an obvious question: if this is the case why is there a need for the public sector to promote eWorking? Is there any sense in which the public sector might be unaware of the advantages of eWorking and hence underutilising this work practice? Are there mechanisms that bias the choice in favour of working in the office as compared with home – such as subsidised parking – that could be removed so as to ensure that eWorking is considered on its merits? In other words, more work and research needs to be conducted before this recommendation is implemented.

Targets for Broadband Rollout

The Taskforce considers the likely extent of commercially available broadband in two dimensions: the speed of the broadband connection, up to a maximum of 100Mbps; and the geographical coverage.¹³ Higher broadband speeds mean that different applications and technology can be used. For example, for speeds up to 20Mbps users can “access voice-over-Internet, fast browsing, high definition television, file sharing and video conferencing” (NGBT, 2012, p. 32). Much higher speeds are used for a narrower specialist range of tasks such as for a Virtual Health Care Unit, Remote Diagnostic Examinations, HD Education Fast Downloads (*ibid*, Figure 1, p. 33). At present demand tends to be concentrated in the lower broadband speeds, rather than 80 to 100Mbps, reflecting the speeds used by consumer electronics and content services. The evidence suggests users purchase speeds appropriate to their uses. In terms of geographical coverage, commercial operators are more likely to supply high density urban areas, where the costs of delivery per household or business tend to be lower. Here, the return for a given investment will be higher compared to the costs of servicing more rural dispersed populations. Indeed, the market may not provide high speed broadband to certain parts of the country.

Taking these two aspects of high speed broadband rollout the Taskforce recommends that:

Government intervention could be considered necessary to provide high speed broadband services for the 15% to 30% of the population that may not be served through commercial investment (NGBT, 2012, p. 38).

The Government may also wish to consider whether the speeds that are likely to be available to the other segments of the population, outside of urban areas, meet the

¹³ This paragraph draws heavily on NGBT (2012, pp. 13-14, pp. 129-138).

needs of an emerging digital economy and society and whether there are further measures which could accelerate or improve services in this band (*ibid*, p. 38).

Thus the Taskforce sensibly leaves open whether or not the State should intervene to support more extensive or timely geographical coverage of high speed broadband services. It raises the issue but does not provide any analytical framework within which to evaluate whether the recommendations should be implemented. Below we sketch out some of the factors that should guide such a decision.

Just because high speed broadband is not provided by the market or if it is provided not to all consumers then this does not in and of itself represent a market failure that justifies State intervention.¹⁴ There is a distinction between the market failing to provide high speed broadband service to a remote community and market failure to provide the service. The *former* simply means that the private costs are less than the private benefits. Anticipated extra demand does not justify the cost of the additional high speed broadband provision. In short, the commercial operator would make a loss on the additional broadband provision and hence does not provide the service. In the *latter* case wider considerations of the costs and benefits to society, that are not taken into account by the private operator, mean that high speed broadband service should be provided.¹⁵ This is the case of a corrective subsidy, where the government needs to consider whether the overall benefits to society of the subsidised increase to provision are greater than the costs of inducing the increase. Ideally, the subsidy will be offered only up to the point where the marginal subsidy equals the marginal societal benefit, and not beyond.

Honohan (1997, p.92) offers a checklist for screening corrective measures that provides some pointers to what information will be required to assess a given proposal:

- (i) Is the adjustment to relative prices correct (given the externality being corrected for, and including the effect of deadweight)?
- (ii) Is the externality itself policy-induced, suggesting the possibility of a more direct correction?
- (iii) Is the budgetary provision in line with current projections of demand?

Step 1 on this checklist requires identification of the wider benefits that are not taken into account by the market. These are referred to as spillovers or externalities. Since the market does not take them into account they are referred to as unpriced externalities.¹⁶ Hence within a market failure

¹⁴ Some authors seem to use the term 'market failure' as if it were simple failure to supply. For example, the stated objectives of the National Broadband Scheme included "to address the market's failure to provide broadband in the more rural parts of Ireland" (Comptroller and Auditor General, 2011, p. 363). Forfás (2011, p. 5) also employ the term in a similar manner: "[T]he optimal solution is that telecommunications market players ... undertake the necessary investment within the context of a supportive policy and regulatory framework with Government addressing areas of market failure. In the event that the market does not deliver in a timely fashion, this paper sets out the need for Government to ensure that Ireland has advanced broadband services to allow the enterprise base to compete successfully in international markets."

¹⁵ However, public intervention is only warranted if the private sector will not provide the service, i.e. the private benefits are less than the private costs.

¹⁶ If they are priced they are taken into account and hence are not unpriced and there is no further reason for intervention by the State. For example, an examination of a Ryanair ticket price shows an item "0.50 EUR Passenger Fee: ETS," where the ETS refers to the system set up to price the environmental damage caused by plane travel.

framework, these externalities need to be identified and, to the extent possible, quantified. If the benefits exceed the costs then attention needs to be devoted to the most appropriate method or instrument of intervention.

A number of possible externalities can be identified as arising from faster broadband speeds. As noted above there are educational and health applications and the benefits that derive from the use of these applications may not purely private. For example, Casey *et al.* (2012) find a positive association between moderate use of home computers and some Internet applications by Irish primary school children and their scores on maths and reading tests. Better educated citizens are more likely to make a positive contribution that is not entirely captured in the person's future income. Society also has a broader interest in an educated and healthy society. An important aspect of society is that citizens should participate fully. Connectivity to one's fellow citizens and the State is thus vitally important. Broadband is significant in the latter aspect as an increasing proportion of the services provided by the State are mediated through the Internet. However, it is not clear whether or not high speed broadband is needed compared to basic broadband to achieve such benefits. Finally, there may be productivity gains from faster broadband which is external to a particular business but which is internal to a group of businesses in a particular location. However, because of co-ordination failures these benefits may not be realised suggesting a role for the State to resolve.

For high speed broadband, these externalities are only potential. The evidence on the magnitude and correct identification of such externalities suggests that the case has as yet to be established. In a recent survey of the literature on high speed broadband, Kenny and Kenny (2011, p. 9) conclude,

The argument for a government subsidy [for high speed broadband] at this point looks particularly threadbare because it is unclear the compelling market failure that the subsidy would overcome. Multiple streaming TV on demand is not a technology that creates 'network externalities' like the telephone or email account. I benefit from my ability to email or call you. I do not benefit from your (little-exercised) ability to watch the Olympics in high-definition while the kids are streaming *Toy Story III* in the basement. Fiber advocates have claimed externalities such as improved healthcare or reduced electricity consumption. As we have seen, these benefits are frequently based on crediting fiber with applications that can work on basic broadband ... or from benefits from taking business from business premises, not homes.

Howell and Grimes (2010) in a paper that looks at the relationship between productivity and high speed broadband suggest a framework that should be employed before accepting the commonly advanced arguments for faster broadband speeds. They argue, for example, that complementary investments may be required to get the full benefit of high speed broadband. Even with regard to the scale of private benefits obtained from basic broadband there remains a live debate. Greenstein and McDevitt (2011) identify weaknesses in many of the previous studies on the direct economic value added by basic broadband in the US and produce revised estimates, concluding that "... the scale of returns was not outsized. It was comparable to the scale of monetary investment made by the suppliers."¹⁷

¹⁷ Greenstein and McDevitt (2011, p.630).

Not only would the benefits need to be estimated but also the costs. The evidence suggests that supplying rural areas with broadband as compared to urban areas is much more expensive (TIF, 2010), while high speed broadband is more expensive than the rollout of basic broadband (Kenny and Kenny, 2011, pp. 9-10). Forfás (2011, Table 1, p. 36) estimate the cost of rolling out high speed broadband to all towns with a population over 1,500 as €2.23 billion.¹⁸

The removal of barriers may serve to reduce the need for direct State intervention even where externalities are present, which relates to Step 2 on the checklist. We have already discussed some of the useful suggestions made by the Taskforce in this area.

While efficient procurement can keep the costs to a minimum such as the tendering process used by the DCENR for the National Broadband Scheme, attention also needs to be paid to anticipated demand (Step 3 above). The unpriced externalities or benefits are only realised if the high speed broadband is actually used. In the case of the National Broadband Scheme demand was substantially overestimated with the result that the subsidy per subscriber was twice that assumed in the cost benefit study justifying the National Broadband Scheme (Comptroller and Auditor General, 2011, pp. 363-365).¹⁹ The international evidence suggests that such overestimation of demand is not unusual for infrastructure projects (Morgenroth, 2011, pp. 6-7). There are also suggestions that the demand for high speed broadband may be lower than for basic broadband (Kenny and Kenny, 2011, pp. 16-17). The risk of deadweight due to overlap between areas covered by a subsidy scheme and commercial provision should be considered. Finally, as Honohan (1997, pp. 79-80) points out, there is a cost involved in raising public funds (e.g. tax collection) as well as tax-induced distortions (e.g. reduced output because of the tax wedge between pre and post income). Suppose, at the margin, it cost a €1 for every euro raised in tax, then the benefits from any State intervention to promote high speed broadband would need to be at least twice the cost before a public subsidy is merited.

Conclusion

The Government is to formulate a new National Broadband Plan in July 2012 based on the Taskforce report and the subsequent consultation exercise. We welcome proposals to address a number of areas on the supply side with respect to reducing or removing regulatory and other barriers to facilitate high speed broadband roll out. Bringing greater clarity and consistency to the local planning process for telecommunications infrastructure should help encourage efficient investment. However, we believe it would be premature to undertake demand stimulation measures for high speed broadband or to initiate direct government support to provide high speed broadband to the 15 to 30 per cent of the population that may not be served through commercial investment. Here much more analysis is required. The available evidence, at this time, is not sufficient to justify further public intervention via subsidy to promote high speed broadband. We have suggested some possible approaches for determining whether public intervention is necessary, and if it is, finding the most appropriate set of instruments. Lessons also need to be learnt from the experience of rolling

¹⁸ Much of this will, of course, be provided by the private sector as the Taskforce makes clear.

¹⁹ The cost benefit study is not available on the DCENR's website page concerning the National Broadband Scheme, so it is not possible to determine whether this increase in costs would have resulted in the costs of the NBS exceeding the benefits. The webpage only contains the Environmental Screening Report. See fn 5 above for references to this NBS webpage.

out the National Broadband Scheme. Hence the new National Broadband Plan should set out the questions to be answered and issues to be addressed before final decisions concerning State intervention can be decided.

There are, furthermore, gains to be made by waiting to make a decision on the degree of public support, if any, for high speed broadband rollout. More and better evidence will become available as to whether or not the much touted benefits of high speed broadband exist and their magnitude. In this fast-changing sector new technologies may develop with lower costs of deployment or greater societal benefits. Also, as the supply-side reforms in terms of removing regulatory and other barriers come into effect, the cost of any additional intervention that is needed to provide wider access should fall. By waiting, policy makers will have more information and evidence on which to base their decisions. As a result better more cost effective public policy should be the result. This is a not inconsiderable factor to be taken into account in a period of austerity and tight controls on public expenditure.

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